We claim:

1. A polypeptide having the retroinverso form of a polypeptide of formula (I)

Z_1-Xaa_2-Xaa_3-Xaa_4-Xaa_5-Xaa_6-Xaa_7-Xaa_8-Xaa_9-Xaa_{10}-Z_2 (SEQ ID NO:)

wherein:

Xaa_2 is a neutral/non-polar/large/cyclic amino acid residue;

Xaa_3 is a neutral/polar/small or neutral/polar/ large/non-cyclic or acidic amino acid residue;

Xaa_4 is a neutral/nonpolar/large/cyclic or neutral/non-polar/large/non-cyclic or neutral/polar/large/non-cyclic or neutral/ polar/small amino acid residue;

Xaa_5 is a neutral/polar/small amino acid residue

Xaa_6 is a neutral/polar/small or neutral/polar/ large/non-cyclic amino acid residue;

Xaa_7 is a neutral/nonpolar/large/non-cyclic or neutral/polar/large/non-cyclic amino acid residue;

Xaa_8 is a neutral/polar/large/non-cyclic or neutral/polar/small amino acid residue;

Xaa_9 is a neutral/polar/small amino acid residue;

Xaa_{10} is a neutral/polar/small amino acid residue;

Z_1 is hydrogen, amino, acetyl or at least one amino acid residue or the desamino form thereof;

Z_2 is hydroxyl, carboxyl, non-amino acids such as agmatine, or at least one amino acid residue, including carboxyamide or alkylamide forms thereof; and

wherein said polypeptide mimics or inhibits the biological activity of thrombospondin.

2. A polypeptide having the retroinverso form of a polypeptide of formula (II):

R_1-Cys-Xaa_{11}-Xaa_{12}-Xaa_{13}-Cys-R_2 (SEQ ID NO:)

wherein:

R_1 is a protected or unprotected terminal amino group, including hydrogen, amino, acetyl or at least one amino acid residue or the desamino form thereof;

Xaa_{11}, Xaa_{12}, and Xaa_{13} are the same or different neutral/non-polar/large/non-cyclic or neutral/polar/large/non-cyclic or neutral/polar/small or basic/non-cyclic amino acid residues, preferably selected from the group consisting of valine, threonine, serine, and arginine;

R_2 is a protected or unprotected terminal carboxyl group including hydroxyl, carboxyl, or at least one amino acid residue, including carboxyamide or alkylamide forms thereof, preferably selected from the group consisting of lysine, glycine, and arginine;

wherein the structure of the polypeptide is optionally cyclized through a bond between the cysteines, such as a disulfide bond, or a bond between R_1 and R_2; and

wherein said polypeptide mimics or inhibits the biological activity of thrombospondin.

3. The retroinverso polypeptide according to claim 2, wherein the cysteine residues are modified by a sulfhydral blocking group.

4. A retroinverso polypeptide having the formula d-Gly-Cys-Thr-Val-Ser-Cys (SEQ ID NO:), wherein the cysteine residues are modified with a sulfhydral blocking group.

5. The retroinverso polypeptide according to claim 4, wherein the sulfhydral blocking group is -CH_2-NH-$COCH_3$.

6. The retroinverso polypeptide according to any one of claims 1 to 5, wherein said polypeptide is linked to a chemotherapeutic drug.

7. The polypeptide according to claim 6, wherein the chemotherapeutic drug is selected from the group consisting of doxorubicin, chlorambucil, adriamycin, dauomycin, methotrexate, vindescine, alpha-amanitin, purothionin, bleomycin, and phenylenediamine mustard.

8. The polypeptide according to any one of claims 1 to 5, wherein the polypeptide is linked to an radioisotope.

9. The polypeptide according to any one of claims 1 to 5, wherein the polypeptide is linked to a cytotoxic agent.

10. The polypeptide according to claim 9, wherein the cytotoxic agent is selected from the group consisting of ricin, abrin, and diptheria toxin.

11. The polypeptide according to any one of claims 1 to 5, wherein the polypeptide is linked to a compound selected from the group consisting of human serum albumin, dextran, and covalently substituted poly-L-glutamic acid.

12. A method for inhibiting tumor cell metastasis comprising administering to a host in need of such inhibition an effective amount of a retroinverso polypeptide compound according to any one of claims 1 to 5.

13. A method for inhibiting tumor cell invasion comprising administering to a host in need of such inhibition an effective amount of a retroinverso polypeptide compound according to any one of claims 1 to 5.

14. A method for inhibiting tumor cell adhesion comprising administering to a host in need of such inhibition an effective amount of a retroinverso polypeptide according to any one of claims 1 to 5.